(12) United States Design Patent (10) Patent No.:

Calkins

US D532,095 S

(45) Date of Patent: ** Nov. 14, 2006

(54) COMBINED FAN ASSEMBLY AND SHROUD

Inventor: Scot R. Calkins, Olympia, WA (US)

Assignee: Flex-a-lite Consolidated, Inc., Fife,

WA (US)

Term: 14 Years

Appl. No.: 29/214,805 (21)

(22) Filed: Oct. 7, 2004

U.S. Cl. **D23/370**; 23/379

Field of Classification Search D23/370, D23/379; 417/423.15, 423.14; 165/67

See application file for complete search history.

(56)References Cited

U.S. PATENT DOCUMENTS

7,004,732 B1 *	2/2006	Cho et al	417/423.15
7,007,744 B1 *	3/2006	Kalbacher	165/67

^{*} cited by examiner

Primary Examiner—Lisa Lichtenstein (74) Attorney, Agent, or Firm-Dickson Steinacker LLP; Kevin Steinacker

(57)CLAIM

The ornamental design for a combined fan assembly and shroud, as shown and described.

DESCRIPTION

FIG. 1 is a front and back view of the combined fan assembly and shroud portion shown separately for clarity of

FIG. 2 is a right and left view of the combined fan assembly and shroud portion shown separately for clarity of illustra-

FIG. 3 is a top view of the combined fan assembly and shroud portion shown separately for clarity of illustration.

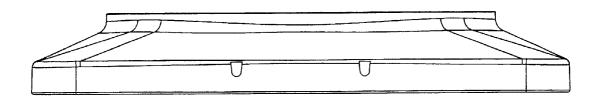
FIG. 4 is a bottom view of the combined fan assembly and shroud portion shown separately for clarity of illustration.

FIG. 5 is an isometric view of the combined fan assembly and shroud portion shown separately for clarity of illustration; and,

FIG. 6 is an isometric view of the combined fan assembly and shroud depicting the shroud with an s-blade fan installed in the shroud.

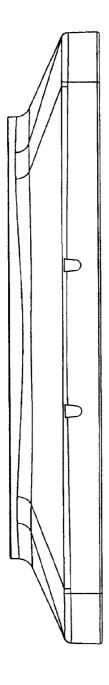
This combined fan assembly and shroud is characterized by high efficiency airflow and integral mounting points for the motor/fan assembly as well as the complete fan/shroud assembly in a single piece molded shroud.

1 Claim, 6 Drawing Sheets



U.S. Patent Nov. 14, 2006

Sheet 1 of 6





U.S. Patent Nov. 14, 2006

Sheet 2 of 6

US D532,095 S

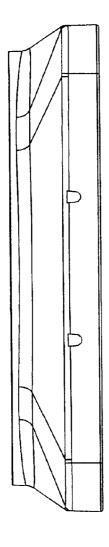
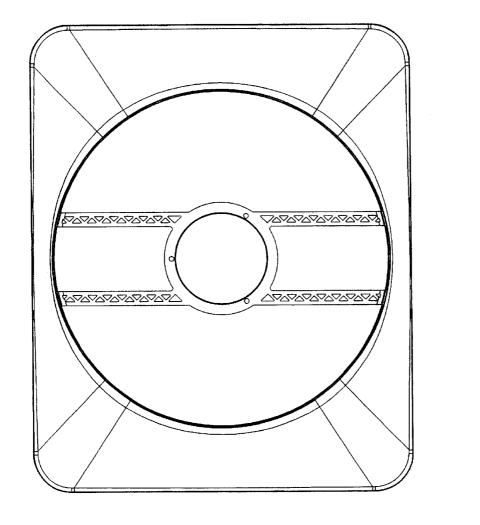
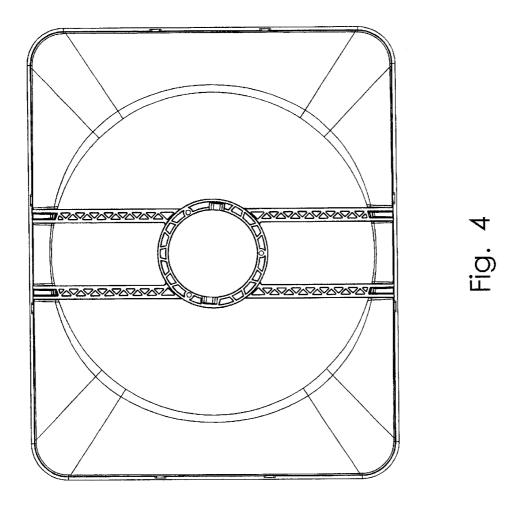


Fig. 2

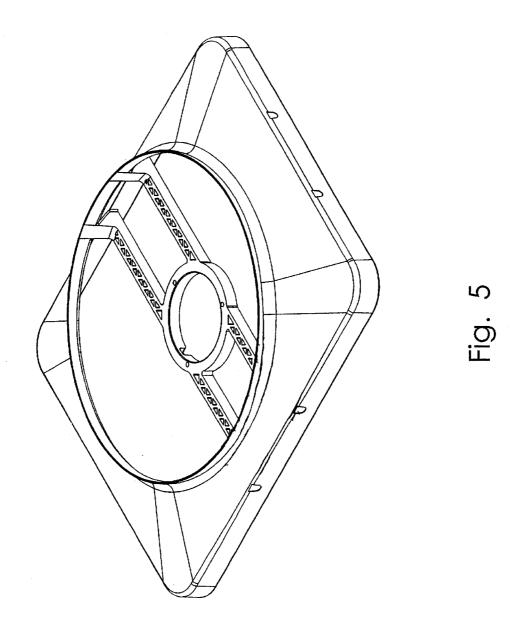
U.S. Patent Nov. 14, 2006 Sheet 3 of 6



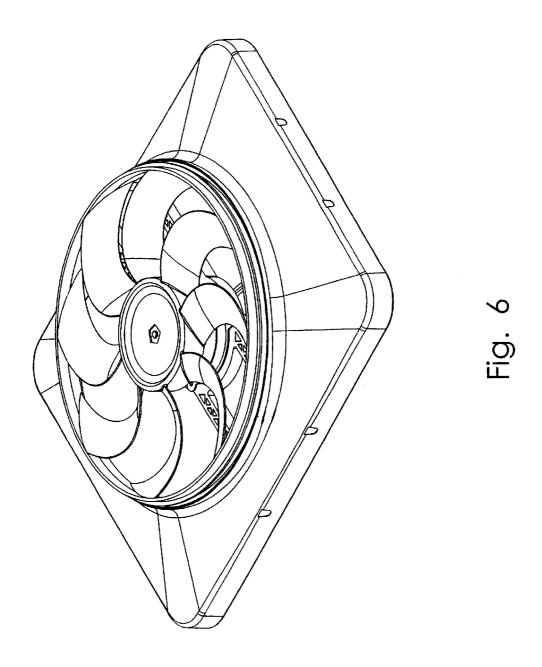
U.S. Patent Nov. 14, 2006 Sheet 4 of 6



U.S. Patent Nov. 14, 2006 Sheet 5 of 6



U.S. Patent Nov. 14, 2006 Sheet 6 of 6

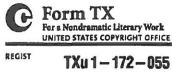


Case 2:12-cv-01828 Document 1-2 Filed 10/17/12 Page 10 of 20

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.



EFFECTIVE DATE OF REGISTRATION

5	10	2004
Month	Day	Year

	Register of Copyr	ights, United States of America	Month	C Day	2004 Year
	DO NOT WRITE ABOVE THIS LIN	E. IF YOU NEED MORE SPACE, USE A SEPARA	TE CONTINUATION	SHEET.	
	TITLE OF THIS WORK ▼	Fans Installation Instructions		•	
	PREVIOUS OR ALTERNATIVE T	TITLES V	-		
	PUBLICATION AS A CONTRIBUTION C	TION If this work was published as a contribution to a p n appeared. Title of Collective Work ▼	eriodical, serial, or colle	ection, give inform	ation about the
	If published in a periodical or serial give	: Volume ▼ Number ▼	Issue Date ▼	On Pa	iges ▼
2 a	NAME OF AUTHOR ▼ Flex-A-Lite Consolidated, Inc.		DATES OF BIR Year Born ▼	TH AND DEAT Year Died	
	Was this contribution to the work a "work made for hire"? Yes	AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in	WAS THIS AUTHE WORK Anonymous? Pseudonymous?	THOR'S CONT	RIBUTION TO If the answer to either of these questions is "Yes," see detailed instructions.
NOTE		lly describe nature of material created by this author in whi		NAME AND ADDRESS OF TAXABLE PARTY.	, , , , , , , , , , , , , , , , , , ,
Under the law, the "author" of a "work made for hire" is	NAME OF AUTHOR ▼		DATES OF BIR' Year Born ▼	TH AND DEAT Year Died	
generally the amployer, not the employee (see instructions). For any part of this was	"work made for hire"? ☐ Yes ☐ No	AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in Domi	- Pseudonymous?	☐ Yes ☐ No	RIBUTION TO If the answer to either of these questions is "Yes," see detailed instructions.
'made for hire" check "Yes" in the space provided, give the employer (or other	NAME OF AUTHOR ▼	ly describe nature of material created by this author in will	DATES OF BIR'		
person for whom the work was prepared) as "Author" of that part, and eave the space for dates of birth and death blank.	"work made for hire"? Yes No	AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in ly describe nature of material created by this author in white	- Pseudonymous?	☐ Yes ☐ No	RIBUTION TO If the answer to either of these questions is "Yes," see detailed Instructions.
3 a		formation Complete this information Month	JBLICATION OF TI	HIS PARTICUL Year	
See instructions sefore completing	COPYRIGHT CLAIMANT(S) Name the author given in space 2. ▼ Flex-A-Lite Consolidated, Inc. 7213 45th St. Ct. E. Fife, WA 98424	e and address must be given even if the claimant is the same	MAY 1 D 2	N RECEIVED OO 4 OO 4 SITS RECEIVED	
his space.	TRANSFER If the claimant(s) named h	ere in space 4 is (are) different from the author(s) named in claimant(s) obtained ownership of the copyright.	TWO DEPOS		

FOR COPYRIGHT OFFICE USE ONLY
COPYRIGHT OFFICE USE
COPYRIGHT OFFICE USE
OFFICE USE
T
e?
5
aG
U
See instructions before completing
this space.
D
of Account.
State/ZIP▼ b
8
8
8
Solutive right(s) A
8 (a) Inlight evisuals
Slusive right(s) A
4
Assary spaces for in space 8
Assary spaces for in space 8 EMENTS ACKAGE:
sessary spaces tion in space 8 EMERIS ACKAGE: ling fee in check or money Fee ses subject to
Assary spaces tion in space 8 EMERIS ACKAGE: ling fee in check or money Fee see subjust to
Assary spaces from in space 8 EMERIS ACKAGE: Ing fee in check or money Fees are subject to

^{*17} U.S.C. § 508(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.

Case 2:12-cv-01828 Document 1-2 Filed 10/17/12 Page 12 of



Model 30 or 35 Electric Fans

Model 30: Puller mode, includes thermostatic control.

Model 35: Puller mode, does not include controls.

Mounting Instructions—Model 30 or 35 may be installed either horizontally or vertically to the radiator.

- 1. Remove the vehicle's existing fan and shroud.
- 2. Position the electric fan against the back of the radiator (between the radiator & engine), and mark the holes for mounting.
- 3. Rotate the blades to make sure they are free of obstructions.
- 4. With a small phillips screwdriver, pass through the marked holes, carefully spreading the fins to allow easy passage for the nylon bolts. Pass the bolts through the shroud holes then twist the bolts through the radiator.

Important: If using a model 30, be sure the thermostatic sensing bulb is touching the radiator.

5. Install rubber disc spacers, washers, and speed nut. Cut the excess off the bolt (Leave enough excess for adjustments).

Mandatory Connections for Model 30

- 1. Disconnect battery.
- 2. Connect the positive "+" terminal to a low amp 12 volt positive (+) power source (e.g. fuse box), using the wire provided in the kit.

Note(optional): Attach positive (+) terminal to an ignition source to stop the fan unit from operating after the engine is turned off.

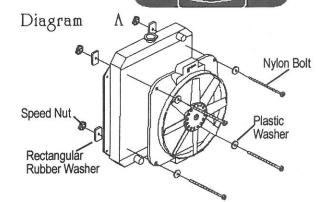
- 3. Connect the "B" terminal to a high amp 12 volt positive (+) power source, ie. positive (+) side of battery or alternator, using the wire and inline fuse included in kit.
- 4. Connect the "G" terminal to ground (ie. chassis, negative () side of battery) using the wire provided in the kit.
- 5. With the wire and 3-way connector provided, splice into the A/C clutch positive(+) wire. Connect the other end of the wire to the "C" terminal of the control box. Air Conditioning Relay Activates fan when A/C is turned on.
- 6. Install provided knob onto the thermostat shaft.
- 7. Adjust thermostat to desired temperature within 180°-240°.

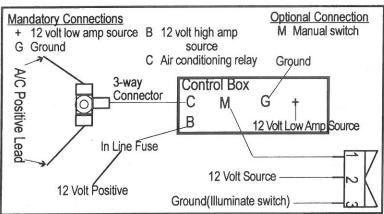
Optional Connection

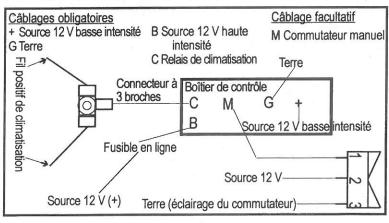
Manual Switch(not included)—Allows manual operation of fan (Note: based on Flex-a-lite's manual switch part #31148)

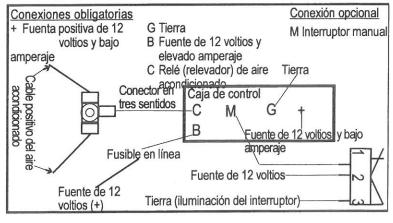
- 1. Connect the "M" terminal to terminal 1 on the switch.
- 2. Attach terminal 2 to a 12 volt positive (+) source.
- 3. Attach terminal 3 to ground to illuminate switch.

Note (optional): To stop the fan from activating thermostatically, omit the lead to the positive(+) terminal of the control box. B, G, & M must remain connected.









Ventilateurs électriques, modèles 30 ou 35 Modèle 30: modeà extraction, inclut contrôle thermostatique. Modèle 35 : mode à extraction, n'inclut pas de contrôles.

Instructions de montage — L'installation des modèletps 30 et 35 peut s'effectuer horizontalement ou verticalement par rapport au radiateur.

- 1. Enlevez le ventilateur et la buse actuels du véhicule.
- 2. Placez le ventilateur électrique contre l'arrière du radiateur (entre le radiateur et le moteur) et marquez les trous de
- 3. Tournez les pales du ventilateur pour vous assurer de l'absence d'obstructions.
- 4. A l'aide d'un petit tournevis à tête étoilée, passez à travers les trous marqués et écartez avec soin les ailettes pour faciliter le passage des boulons en nylon. Faites passer les boulons dans les trous de la buse, puis tordez-les à l'intérieur du radiateur.

Important : pour le modèle 30, assurez-vous que l'ampoule du capteur thermostatique touche le radiateur.

5. Installez les pièce d'écartement en caoutchouc, puis les rondelles et l'écrou rapide. Coupez l'excès du boulon (laissez-en suffisamment pour les réglages.)

Câblages obligatoires pour le modèle 30

- 1. Débranchez la batterie.
- 2. Connectez la borne positive «+» à une source d'alimentation positive (+) de 12 volts (par ex. une boîte à fusibles) basse intensité. Utilisez pour ce faire le fil contenu dans le kit.

Remarque (facultatif): connectez la borne positive (+) à la source d'allumage pour empêcher le ventilateur de fonctionner une fois que le moteur a été coupé.

- 3. Connectez la borne «B» à une source d'alimentation positive (+) de 12 volts haute intensité, par exemple au côté positif (+) de la 3. Conecte la terminal "B" a una fuente de alimentación positiva (+) batterie ou de l'alternateur. Utilisez pour ce faire le fil et le fusible en ligne contenus dans le kit.
- 4. Connectez la borne «G» au côté terre (par ex. au châssis, côté négatif (-) de la batterie). Utilisez pour ce faire le fil contenu dans le kit.
- 5. Avec le fil de liaison et le connecteur à 3 broches fournis, faites un raccord avec le fil positif (+) de l'embrayage de climatisation. Reliez l'autre extrémité du fil à la borne «C» du boîtier de

Le relais de climatisation actionne le ventilateur quand vous mettez la climatisation en marche.

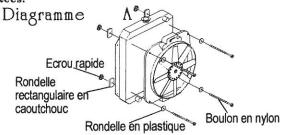
- 6. Installez le bouton fourni sur l'axe du thermostat.
- 7. Réglez le thermostat à la température désirée, entre 82° C et 115° C (180° F et 240° F).

Câblage facultatif

Commutateur manuel (non inclus) — pour le fonctionnement manuel du ventilateur (Remarque : basé sur le commutateur manuel Flex-a-lite n°31148)

- 1. Connectez la borne «M» à la borne 1 du commutateur.
- 2. Connectez la borne 2 à une source d'alimentation positive (+) de 12 volts.
- 3. Mettez la borne 3 à la terre pour éclairer le commutateur.

Remarque (facultatif) : pour empêcher le ventilateur de s'actionner thermostatiquement, ne reliez pas le fil à la borne positive (+) du boîtier de contrôle. B, G et M doivent rester connectées.



2 of 2 Ventiladores eléctricos modelo 30 ó 35 Modelo 30: Modo de extractor, con control termo stático incluido. Modelo 35: Modo de extractor, sin controles incluidos.

Instrucciones de montaje - Los modelos 30 ó 35 se pueden instalar ya sea horizontal o verticalmente en relación al radiador.

- 1. Retire la gualdera y el ventilador existente del vehículo.
- 2. Coloque el ventilador eléctrico apoyado en la parte posterior del radiador (entre éste último y el motor) y marque los orificios de
- 3. Haga girar las aspas para asegurarse de que no tengan obstrucciones.
- 4. Con un destornillador Phillips pequeño, pase a través de los orificios marcados, separando con cuidado las aletas para permitir el paso fácil de los pernos de nilón. Haga pasar estos últimos por los orificios de la gualdera y hágalos girar para que atraviesen el radiador.

Importante: Si utiliza un modelo 30, asegúrese de que el bulbo sensor termostático esté en contacto con el radiador.

5. Instale los espaciadores de discos de caucho, las arandelas y la tuerca de ajuste rápido. Corte el exceso del perno (deje un tramo suficiente para ajustes).

Conexiones obligatorias para el modelo 30

- 1. Desconecte la batería.
- 2. Conecte la terminal positiva "+" a una fuente de alimentación positiva (+) de 12 voltios y bajo amperaje (por ejemplo, la caja de fusibles), utilizando el cable que se proporciona en el estuche.

Nota (opcional): Acople la terminal positiva (+) a una fuente de encendido para detener la unidad del ventilador después de que se apague el motor.

- de 12 voltios y elevado amperaje, o sea, en el lado positivo de la batería o el alternador, utilizando el alambre y el fusible en línea que se incluyen en el estuche.
- 4. Conecte la terminal "G" a tierra (por ejemplo, al chasis o el lado negativo (-) de la batería), usando el alambre que se proporciona en el estuche.
- 5. Con el alambre y el conector en tres sentidos que se incluyen, haga un empalme en el alambre positivo (+) del embrague del aire acondicionado. Conecte el otro extremo del alambre a la terminal "C" de la caja de control.

El relé (relevador) del aire acondicionado activa el ventilador cuando se enciende.

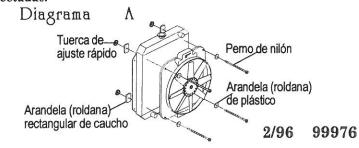
- 6. Instale la perilla proporcionada en el eje del termostato.
- 7. Ajuste el termostato a la temperatura deseada, entre 82° C y 115° C (180° F y 240° F).

Conexión opcional

Interruptor manual (no incluido) - Permite el funcionamiento manual del ventilador (Nota: se basa en el el interruptor manual Flex-a-lite, pieza número 31148).

- 1. Conecte la terminal «M» a la 1 del interruptor.
- 2. Acople la terminal 2 a una fuente positiva (+) de 12 voltios.
- 3. Fije la terminal 3 a tierra para iluminar el interruptor.

Nota (opcional): Para que el ventilador no se active termostáticamente, omita el cable que va a la terminal positiva (+) de la caja de control. B, G y M deberán permanecer conectadas.





Automotive Division

Electric Cooling Fans

- Application-specific
- Diesel Applications
- Sport Compact Fans
- 24 Volt Electric Fans
- _____
- №60-165 Black Magic
- ●118-119 LowBoy Trimline
- №111-420 Low Pro Puller
- №133-440 Low Pro Pusher
- №115-490 X-treme
- § 160/168 S-Blade
- §180/185 X-treme
- 270-290 Monster
- > 292-298 27" Dual
- 🕟 294 Universal Fan
- 330 Compact Dual
- 398 Syclone S-Blade
- №106-398 Trimline
- Belectric Accessories

Aluminum Radiators

Belt Driven Cooling Fans

Oil & Fuel Coolers

Mojave Heater & Plenum

Utility Vehicles (UTV)

Flexite Windows

Install Videos

Where To Buy





Black Magic S-blade

Puller Fan

Where To Buy!

160

with Adj. Thermostat, A/C Relay and manual switch connection

Select a link

168

no controls Select a link

- Computer-engineered blades run quietly & efficiently.
- Ring fan provides better blade support for impact resistance and water crossings.
- Recover up to 17 HP
- INCREASE YOUR MILEAGE by replacing the belt-driven fan!
- Frees up serious horsepower

NEXT GENERATION COOLING

Moves 3,000 CFM Fits vehicles with 16" & wider radiator cores

Note: Increase CFM from 3000 to 3200 when using a 16-volt system

FEATURES

- · Increased Horsepower, Torque and Gas Mileage
- Provides constant cooling, regardless of engine RPM
- Generates cooler A/C output
- Extends water pump life

- Rigid bracket mounting system, no through core mounting
- Entire Assembly is only 4-1/4" thick

- New Products
- Marketing Support
- Frequent Questions
- Testimonials
- Tips & Tricks
- Related Links
- Company Info
- WD Information
- On-Line Retailer
- Install Instructions
- 2011 Jobber Pricing
- Replacement Parts



Application Guide





Follow us on Twitter and become a "Fan" on FaceBook



You can also join us on our BLOG

SPECIFICATIONS

160/168 (puller)		
3000 CFM	Air Flow	
16" x 18" x 4-1/4"	Dims	
19.5	Amp Draw	
Universal Fit	Fits	
8	Blades	
15"	Dia.	
160: Adj. Thermostat, A/C Relay and manual switch connection 168: none	Controls	
Fuse/Breaker	40 Amp Fuse	

Replacement Parts	
30159	Fan Blade
30195	Motor
33021	Controller
30254	Mounting Hardware

[Application-specific] [Diesel Applications] [Sport Compact Fans] [24 Volt Electric Fans] [10-55 Auxiliary Electric] [30-40 Electra-Fan II] [60-165 Black Magic] [118-119 LowBoy Trimline] [111-420 Low Pro Puller] [133-440 Low Pro Pusher] [115-490 X-treme] [160/168 S-Blade] [180/185 X-treme] [270-290 Monster] [292-298 27" Dual [294 Universal Fan] [330 Compact Dual] [398 Syclone S-Blade] [106-398 Trimline] [Electric Accessories] [Aluminum Radiators] [Electric Cooling Fans] [Belt Driven Cooling Fans] [Oil & Fuel Coolers] [Flexite Windows]

Automotive Division | Heavy Duty Division | Fabrication Division | Marisource Hatchery Supplies | Cascade Plastics

Copyright 2011 Flex-a-lite Site Updated - Wednesday, July 20, 2011

Case 2:12-cv-01828 Document 1-2 Filed 10/17/12 Page 18 of 20

track my order | my account | where to buy

SHOPPING CART - 0 Items SUBTOTAL \$0.00

Home: Electric Fans: Details

Search

Go

Categories

2012 NEW Products! **GM Performance Parts** Ford Racing **Engine Builders' Tools LS Performance Parts Alternators & Accessories** Carburetors & Accessories **HEI Distributors & Accessories**

Electric Fans

GM Performance Parts Electric Fans

Engine Dress-Up Kits Engine Dress-Up Parts Gear Drives Harmonic Balancers & Covers

Ford Mustang Products **Starters & Accessories**

Push Rods

Roller Rockers

Valve Train & Cylinder Head Waterpumps & Accessories **Shift Lights & Tachometers**

Rear End Covers

PERFECT LAUNCH™

Truck Accessories

Collectibles & Marketing Support

Catalogs

Featured Item

HIGH PERFORMANCE 15-INCH ELECTRIC S-BLADE FAN WITH THERMOSTAT. UNIVERSAL



View Larger Image | Email Page to Friend

Your stock fan robs your engine of up to 15 or more horsepower! Replace it with a rugged, quieter than straight-blade, universal-fit S-blade fan equipped with an adjustable 180°-240°F. thermostat. Bolts to your radiator supports using sturdy brackets. With a heavy-duty motor, and 15" diameter, this unit pulls up to 2,800 cfm of air, cooling vehicles with up to 250+ HP (without air) and 220+ HP (with air). Overall: 18" x 16-1/8" x 4". Amp draw, 14 amps.

Click Here for installation instructions.

Part Number

67029

Suggested Additions



CHEVY S/B ALUMINUM ELECTRIC WATER PUMP. ALUMINUM FITTING INCLUDED. BLACK.

CHEVY B/B ALUMINUM ELECTRIC WATER PUMP. ALUMINUM FITTING INCLUDED. BLACK

UNIVERSAL WATER PUMP KIT-BILLET ALUMINUM NATURAL FINISH

Home -- Ordering -- About Us -- Contact Us -- Warranty -- Privacy Policy

Shopping Cart

You Currently Have 0 Items in your Shopping Cart

View My Shopping Cart

Got a Question?



NO SPAM HERE!

Things at PROFORM move fast; add your email below to KEEP UP!



— CAUTION — FAN BLADES CAN CAUSE INJURY. TO AVOID PERSONAL INJURY, KEEP CLEAR FROM FAN BLADES. FAN BLADES MAY START AT ANY TIME.

Part #67017 Universal Fan with Thermostat

Part #67015 15" Mustang Fan with Thermostat (on reverse side)

INSTALLATION INSTRUCTIONS

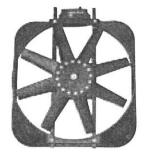
(Fan may be attached to the radiator horizontally or vertically.) Mount fan with brackets using either the bolt-on or clamp-on method, and affix the threaded rods and brackets to the fan accordingly.

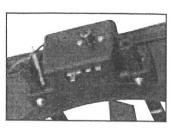
NOTE:

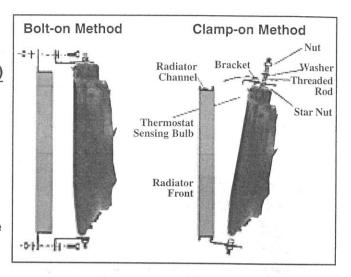
- Use star nuts as shown to stabilize the threaded rods.
- The thermostat sensing bulb MUST contact the radiator surface for accurate temperature readings.
- To avoid damage, do not over-tighten fan to radiator.

REQUIRED CONNECTIONS

- 1. Disconnect vehicle battery.
- 2. Attach the positive (+) terminal to a low-amp 12-volt positive (+) power source (such as fuse box), using the wire provided in the fan kit.
 - OPTIONAL CONNECTION: Attach the positive (+) terminal to an ignition source to stop the fan unit from operating after the entire is tuned off.
- 3. Connect the "B" terminal to a high-amp 12-volt positive (+) power source, such as the positive (+) side of battery or alternator, using the wire and inline circuit breaker included in kit. Circuit breaker is marked for proper installation.
- 4. Connect the "G" terminal to ground (such as chassis, negative (-) side of battery) using the wire provided in the kit.
- 5. With the wire and 3-way connector provided, splice into the A/C clutch positive (+) wire. Connect the other end of the wire to the "C" terminal of the control box. NOTE: Air conditioning relay activates fan when A/C is turned on.
- 6. Adjust thermostat to desired temperature within 180-240° range.







MANUAL SWITCH INSTALLATION OPTION (permits on/off operation manually).

(Switch not included – Must purchase separately)

- 1. Attach the "M" terminal to terminal 1 on the switch.
- 2. Attach terminal 2 to 12-volt positive (+) source.
- 3. Attach terminal 3 to ground.

Note: To prevent the fan from thermostat activation, omit the lead to the positive (+) terminal of the control box, B, G & M must remain connected.

